

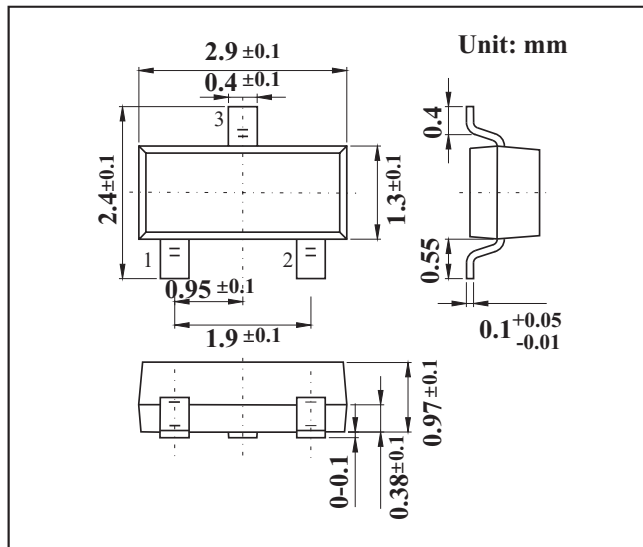
SOT-23 Plastic-Encapsulate MOSFETS

Features

- V_{DS} (V) = -20V
- I_D = -3 A
- $R_{DS(ON)} < 97m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 130m\Omega$ ($V_{GS} = -2.5V$)
- $R_{DS(ON)} < 190m\Omega$ ($V_{GS} = -1.8V$)
- P-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current *1	I_D	-3	A
		-2.4	
Pulsed Drain Current *2	I_{DM}	-15	
Power Dissipation *1	P_D	1.4	W
		0.9	
Thermal Resistance.Junction-to-Ambient *1	$R_{\theta JA}$	125	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.

Copper, in a still air environment with $T_A = 25^\circ\text{C}$

*2 Repetitive rating, pulse width limited by junction temperature.

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μ A, V _{GS} =0V	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V			-1	μ A
		V _{DS} =-16V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	μ A
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μ A	-0.3	-0.55	-1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3A		81	97	m Ω
		V _{GS} =-4.5V, I _D =-3A T _J =125°C		111	135	
		V _{GS} =-2.5V, I _D =-2.6A		108	130	
		V _{GS} =-1.8V, I _D =-1A		146	190	
On state drain current	I _{D(on)}	V _{GS} =-4.5V, V _{DS} =-5V	-15			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-3A	4	7		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz		540		pF
Output Capacitance	C _{oss}			72		pF
Reverse Transfer Capacitance	C _{rss}			49		pF
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		12		Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-3A		6.1		nC
Gate Source Charge	Q _{gs}			0.6		nC
Gate Drain Charge	Q _{gd}			1.6		nC
Turn-On DelayTime	t _{D(on)}	V _{GS} =-4.5V, V _{DS} =-10V, R _L 3.3 Ω, R _{GEN} =3 Ω		10		ns
Turn-On Rise Time	t _r			12		ns
Turn-Off DelayTime	t _{D(off)}			44		ns
Turn-Off Fall Time	t _f			22		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F =-3A, dI/dt=100A/μs		21		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =-3A, dI/dt=100A/μs		7.5		nC
Maximum Body-Diode Continuous Current	I _S				-2	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V		-0.78	-1	V

